

AIM :

The aim of the study is to compare the pulpal response of STATINS (Simvastatin or Atorvastatin) with α -TRICALCIUM PHOSPHATE to that of MTA (Angelus) on human teeth by light microscopic histological evaluation.

MATERIALS AND METHODS :

Simvastatin, Atorvastatin and α Ticalcium Phosphate (α -TCP) were obtained in powder form. 0.5mg of Simvastatin and 0.5mg Atorvastatin were dissolved in absolute ethanol and methanol respectively and then they were mixed with 70mg of α -TCP. Direct pulp capping procedure was carried out on human teeth scheduled for orthodontic extraction under local anesthesia. Class I cavities were prepared and the test materials (Group I- Simvastatin + α TCP, Group II- Atorvastatin + α - TCP, Group III- MTA) were placed in 30 teeth respectively. After the experimental periods of 7, 30, and 90 days the teeth were extracted and histological processing was carried out and test materials were evaluated for the degree of inflammation, tissue damage and hard tissue formation under light microscope.

RESULTS : At 7 days observation, most of the samples in group I, II and group III showed mild inflammatory response. There was no statistically significant difference in terms of inflammation in group I, II and III. At 30 days thin or partial dentin bridge was evident in all the samples in groups I, II and III. There was no statistically significant difference in terms of inflammation and hard tissue formation between the groups at this period. At 90 days majority of the samples in three groups showed evidence of complete dentin bridge formation. There was no statistical significant difference between groups I, II and III in all the three criteria.

CONCLUSION :

Simvastatin and Atorvastatin with α -Tricalcium Phosphate were found to be effective in inducing dentin bridge formation which was comparable to MTA

Key words: Simvastatin, Atorvastatin, α -Tricalcium Phosphate, Histologically.